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CASE REPORT

Escitalopram-induced hyponatremia

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ABSTRACT

Escitalopram is an antidepressant belonging to the class of selective serotonin reuptake inhibitors. It is effective in the treatment of generalized anxiety and major depressive disorders. It also has an off-labeled use of treating mild agitation associated with dementia in non-psychotic patients. The most common adverse effects of escitalopram are a headache, fatigue, and diarrhea. Escitalopram-induced hyponatremia is rare; it is seen in elderly, especially in women. This is a rare case of escitalopram-induced hyponatremia which was observed in a 73-year-old female patient who was admitted, with complaints of increased tension and palpitation, in the psychiatry department. She also had a history of asthma for the past 30 years, a surgery done for carpel tunnel syndrome 6 years back and had no history of liver or renal disease. Tablet Nexito (escitalopram) 10 mg 1-0-0 was started as an antidepressant, and after 1 day, she developed fatigue due to hyponatremia which was evident from the laboratory values of sodium. The sodium level was found to be 122.3 mmol/l, the normal range is between 135 and 145 mmol/l. Hence, she was advised to include 2 g of salt in her diet. As she had hyponatremia, NS 3% was added, and also her dose of escitalopram was decreased to 5 mg OD, resulting in a gradual increase in the sodium level. This case showed a causality score of 8 according to Naranjo Scale and the causality to be probable.

KEY WORDS: Escitalopram; Hyponatremia; Depression; Antidepressent

INTRODUCTION

Escitalopram is a selective serotonin reuptake inhibitor which belongs to the antidepressant class of drugs. It is effective in the treatment of generalized anxiety and major depressive disorders.[1,2] Treatment of mild dementia-associated agitation in non-psychotic patients, treatment of vasomotor symptoms during menopause, hot flashes, and post-traumatic stress disorder are other off-labeled indications. It is the S-enantiomer of the racemic derivative citalopram which selectively inhibits serotonin reuptake with little or no effect on norepinephrine or dopamine reuptake. Hyponatremia, due to selective serotonin reuptake inhibitors, may be caused as a result of syndrome of inappropriate antidiuretic hormone secretion[3,4] that is induced by a non-osmotic antidiuretic hormone release. The syndrome is characterized by a low level of sodium concentration in serum, that is, <135 mmol/l, urinary osmolality exceeding 200 mOsm/kg, serum osmolality of <280 mOsm/kg, and urinary sodium concentration exceeding 20 mmol/l.[4] Since escitalopram is citalopram's S-enantiomer, the cause of hyponatremia may be the active moiety in citalopram.[5] The common adverse effects of escitalopram in more than 10% are a headache, insomnia, drowsiness, ejaculatory disorder, nausea, and diarrhea, in 1-10% include fatigue, dizziness, anorgasmia, abnormal dreams, paresthesia, yawning, lethargy, diaphoresis, menstrual disease, xerostomia, constipation, dyspepsia, decreased appetite, vomiting, abdominal pain, flatulence, decreased libido, toothache, impotence, urinary tract infection (children ≥2%), neck pain, flu-like symptoms, rhinitis, shoulder pain, back pain, sinusitis, nasal congestion (children ≥2%), and in <1%, rare adverse drug reactions (ADRs) which includes,

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abdominal cramps, abnormal gait, agitated depression, acute renal failure, agitation, akathisia, agranulocytosis, alopecia, prolonged QT interval, angioedema, amnesia, angle-closure glaucoma, and anxiety.[6]

Escitalopram-induced hyponatremia is rare and seen more in elderly than in younger patients,[7] especially in women. The normal range of serum sodium is 135-145 mEq/L. Hyponatremia is a condition wherein the sodium level is <135 mEq/L. The main symptoms of escitalopram-induced hyponatremia are delirium, fatigue or instability, and reduced cognitive functions.[3]

CASE REPORT

We hereby describe a rare case of hyponatremia caused by escitalopram. A 73-year-old female was admitted with the complaints of increased tension, reduced sleep, decreased appetite, and palpitation to the psychiatry department. She was an asthmatic patient for the past 30 years and was on nebulization duolin (ipratropium bromide and salbutamol) and budesonide. She previously had a surgery done for carpel tunnel syndrome 6 years back and had no history of liver or renal disease. Tablet escitalopram 10 mg 1-0-0 was given as an antidepressant. After 1 day, she developed fatigue, nausea, and vomiting. Hence, the physician advised her to test all the hematological counts and electrolytes level. The reports showed hyponatremia which was evident from the laboratory values of sodium. The sodium level was found to be 122.3 mmol/l, but the normal range is between 135 and 145 mmol/l. Hence, she was advised to include 2 g of salt in the diet. The next day, the blood sample was again collected for investigating the sodium level, and it was found that there was no change in the above-observed level. As a result, the physician decreased the dose of escitalopram to 5 mg OD and also prescribed 3% normal saline. Progressive resolution of the hyponatremic symptoms was seen during the following days, and laboratory investigations showed a gradual increase in serum sodium concentration and the patient was discharged with mirtazapine 7.5 mg OD instead of escitalopram.

DISCUSSION

Escitalopram-induced hyponatremia occurs rarely. The risk in elder population is found to be more in the first week of management with further increase with increasing age.[7] Low body weight female patients have higher risk rates. Hyponatremia is associated with fluid retention (dilutional hyponatremia), and osmolality is usually reduced. It is therefore recommended to monitor the serum sodium level. This patient represented a probable case of escitalopram-induced hyponatremia. This case had a causality score of 8 as per the Naranjo probability scale, and causality of ADRs was found to be probable.[4]

Jill et al. presented a case of a 75-year-old female, who came with complaints of confusion and her past medical history included depression and hypertension. Amlodipine, alprazolam, esomeprazole, hydrochlorothiazide, and aspirin were her past medications. The laboratory test results showed her serum sodium concentration to be 129 mmol/l. The brain magnetic resonance imaging showed intracranial distal vascular disease and moderate small-vessel disease with no signs of high-grade stenosis. The patient's sodium concentration in serum rose to 133 mmol/l on the very next day, and it only slightly varied over a 6 days period. On the 7th day, escitalopram was prescribed and on day 8th, donepezil was prescribed. After 5 days, there was a sudden drop in the serum sodium concentration to 116 mmol/l. After the discontinuation of escitalopram, the serum sodium concentration gradually increases to 139 mmol/l over a 5 days period.[4]

Sharma et al. reported a case of 79-year-old male, who had developed altered sensorium over 4 days and it was progressive day by day. He had a medical history of depressive symptoms, hypertension, hyperlipidemia, and diabetes. He also had a history of complete heart block and was on permanent pacemaker. Amlodipine 10 mg, rosuvastatin 20 mg, metformin 1 g, sitagliptin 100 mg, and aspirin 75 mg along with 20 mg of escitalopram were his medications before admission. The patient was initially on 10 mg of escitalopram when his symptoms worsened; the dose of escitalopram was increased to 20 mg and clonazepam 0.5 mg added. Thereafter, improvement in his symptoms was noticed, like he started going outdoors and doing his day-to-day activities. However, for the past 4 days (i.e. 10 days after increasing the dose of escitalopram), there was deterioration in his health and incontinence of both stools and urine. On admission, laboratory findings showed low levels of serum sodium (111 mEq/L), normal hemoglobin, and total leukocyte count. He had low serum osmolality (240 mOsm/kg), normal range is 275-290, low urine sodium (19 mEq/L) and urine osmolality of 123 mOsm/kg, normal is 50-1300. Escitalopram-induced syndrome of inappropriate antidiuretic hormone secretion was postulated and the drug was discontinued. His sodium levels increased to 127 mEq/L with 3% NS and intravenous sodium replacements. Therapy was continued and serum sodium normalized after 5 days.[8]

Grover et al. reported a case of 65-year-old male who came with complaints of anxiety, inability to relax, excessive worries, tachycardia, and dry mouth for the duration of 5 years. He was a hypertensive patient for 15 years and was managed with T. Amlodipine 5 mg/day and T. Atenolol 50 mg/day. He was initiated on T. escitalopram 10 mg/day. The patient experienced an episode of generalized tonic–clonic seizures after 10 days of initiating this medication and was taken to the emergency department. The patient was observed to have hyponatremia (126 mEq/L) on laboratory investigation. Electrocardiogram, hepatic, and renal function

tests were found to be normal. Hyponatremia was treated with infusion of normal saline and T. escitalopram was discontinued. Over the next 2 weeks, the patient's condition improved in a gradual manner, then T. mirtazapine 7.5 mg/day was initiated, which was gradually increased to 15 mg/day dose.

CONCLUSION

Escitalopram-induced hyponatremia is rare and usually reversible in patients when the drug is discontinued. Physicians and clinical pharmacists should be aware of the possibility of hyponatremia in patients on escitalopram and regular monitoring of blood sodium level is required.

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